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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,281	06/27/2005	Marco Betting	TS6338 US	6267
23632	7590	04/29/2008	EXAMINER	
SHELL OIL COMPANY			TURNER, SONJI LUCAS	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/526,281

**Applicant(s)**

BETTING ET AL.

**Examiner**

SONJI TURNER

**Art Unit**

1797

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4-11 is/are rejected.
- 7) ☒ Claim(s) 3 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☒ Information Disclosure Statement(s) (PTO/SG/US)
- Paper No(s)/Mail Date 3/1/2005.
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Priority***

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 10/526281, filed on March 1, 2005.
2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Drawings***

3. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because figs. 4 and 5 are not of sufficient quality. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

### ***Claim Objections***

4. Claim 2 objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 2 are intended use for the instant invention and does not further limit the limitations of the previous claim.

5. Claims 3, 4, and 6 are objected to because of the following informalities: each reads "rotational symmetrical configuration" and should read —rotationally symmetrical configuration—. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

7. The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

9. Claim 1 recites the limitation "the region of the wing tips" in the last line of the claim. There is insufficient antecedent basis for this limitation in the claim.

10. Claim 2 recites the limitation "the tubular midstream section" at line 3 and "the cooled particles" in line 4. There is insufficient antecedent basis for this limitation in the claim.

11. Claim 4 recites the limitation "the central axis" in line 3 and the limitation "said central axis" in the last line of the claim. There is insufficient antecedent basis for this limitation in the claim.

12. Claim 5 recites the limitation "the distance" in the first line. There is insufficient antecedent basis for this limitation in the claim. In addition, a broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not

clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c).

Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (BPAI 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 5 recites the broad recitation between "0.6W and 0.99W," and the claim also recites between "0.8W and 0.98W" which is the narrower statement of the range/limitation.

13. Claim 6 recites the limitation "the central axis" in line 3 and the limitation "said central axis" in the last line of the claim. There is insufficient antecedent basis for this limitation in the claim.

14. Claim 7 recites the limitation "the central axis" in line 3. There is insufficient antecedent basis for this limitation in the claim.

15. Claim 8 recites the limitation "the separation section" in lines 2 and 5. There is insufficient antecedent basis for this limitation in the claim.

16. Claim 9 recites the limitation "the corrugated tubular vortex finder" and "the central axis" in line 2. There is insufficient antecedent basis for this limitation in the claim.

17. Claim 10 recites the limitation "the wing carrier body" and "the tubular inlet section" in line 2, the limitation "the region of a throat portion of the nozzle" in line 3, and the limitation "the carrier body" in line 4. There is insufficient antecedent basis for this limitation in the claim.

18. Claim 11 recites the limitation "the wing carrier body" in line 1 and the limitation "the tubular midstream section" in line 2. There is insufficient antecedent basis for this limitation in the claim.

19. Claims 2-11 are rejected as being dependent upon a rejected base claim.

***Allowable Subject Matter***

Claims 1-11 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

The following is a statement of reasons for the indication of allowable subject matter: The closest prior art of record US Patent 6,962,199 does not teach or fairly suggest the limitation of instant independent claim 1 for the specific spacing of the wing tips located at a spacing  $S$  less than  $0.2W$  from an inner surface of the tubular midstream vortex generation section. This critical feature allows an enhancement of separation efficiency due to the formation of spaced vortices at the tips of the wings. None of the prior art of record teach nor suggest the importance of this specific distance, so that claim 1 is both novel and non-obvious.

***Conclusion***

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and is listed on PTO-892 (Notice of References Cited).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SONJI TURNER whose telephone number is (571)272-1203. The examiner can normally be reached on Monday - Friday, 10:00 am – 2:00 pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on 571-272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

st  
4/25/2008

/Duane S. Smith/  
Supervisory Patent Examiner, Art  
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4-25-08

